

REMARKS

We have amended claims 1, 2, 6, 8, and 12-14, and added claims 15-21. Claims 1-21 are pending in the application.

The examiner rejected the claims under 35 U.S.C. §103(a) as being unpatentable over Gathmann (U.S. 531,994). The examiner asserts that Gathmann teaches all elements except that the lens is a catadioptric lens. We note, however, that contrary to what the examiner seems to believe, Gathmann does not in fact teach or suggest:

cutting apart the lens element to form $2n$ pie-shaped segments, wherein n is an integer; and

reassembling the $2n$ pie-shaped segments to form the lens system with n of the $2n$ pie-shaped segments being located above a common plane and the rest of the $2n$ pie-shaped elements being below the common plane.

Instead, Gathmann teaches constructing a large lens from a plurality of independently fabricated smaller members. Gathmann discloses that large lenses often have numerous defects, such as “cracks or breaks” (page 2, line 78) and that “the amount of trouble increases manifestly with the size of the glass” (page 2, lines 80-82). Gathmann discloses avoiding defects by making a large lens from members that are smaller than the lens that is to be constructed:

It is obvious that in a lens of thirty-six inches diameter numerous defects are present, owing to the cooling of such a large piece of glass, whereas, these defects are reduced to a minimum in a piece of glass of about eight or twelve inches diameter, which will be about the size of the sections forming my lens.

In other words, Gathmann discloses that instead of making a large diameter lens, one should make and secure together members that are small, so as to minimize defects. “Thus the lens is made of clearer and more perfect glass than if made in one piece.”

The examiner did not identify, nor could we find, any teaching in Gathmann of cutting apart a lens element and then reassembling it in the manner recited in the claims to form a lens system.

For the reasons stated above, we believe the claims are in condition for allowance and thus ask the examiner to allow them to issue.

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Respectfully submitted,

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